Replace Arc Jet Complex SVS Boiler

NNA13418436R-Amendment 0003

Q1: The SF 1442 for the Solicitation states a performance period of 830 calendar days, including options. Section F.3 states a performance period of 730 calendar days, with a performance period extension of 20 calendar days per Option. Please clarify the required performance period, including all Options.

A1: The performance period of the base award is 730 calendar days from notice to proceed. If options are exercised pursuant to the contract, we will add 20 days for each option exercised. The maximum additional days would be 120 calendar days. For example: 6 options exercised will add 120 calendar days, hence, the total contract performance is 850 calendar days should all options be exercised.

Q2: It is unclear where the Cover Letter should be included with the proposal. Section L.14(b) states that (3) volumes shall be included; however, the Proposal Component matrix appears to indicate that (4) separate volumes are required. Please clarify if the Cover Letter should be included as a separate fourth volume, or be included with one of the other three volumes.

A2: The proposal preparation instructions in Section L have been clarified in the final RFP.

Q3: There is no evaluation criteria provided for the items required within the Cover Letter. Please provide information on how the content of the Cover Letter section will be evaluated.

A3: There are no evaluation criteria for the Cover Letter. NASA will review cover letter items to ensure completeness.

Q4: Given the complexity of the proposal response and the amount of information needed to be collected, we formally request an extension of two weeks to the due date of May 24, 2013 as required in the draft RFP.

A4: The Final RFP specifies closing date of 7 June 2013.

Q5: The documents released on April 26th indicate that they are all still in DRAFT format. Please confirm when the final RFP will be released.

A5: The official RFP release date is 8 May 2013 and closes on 7 June 2013.

Q6: It appears that pricing information needs to be included in the Cover Letter binder (Section B, Clause B.1) and in the Price Volume (Attachment J-10). Please confirm that pricing information should be included in two separate binders.

A6: Confirmed to be in both volumes.

Q7: Please confirm if pre-proposal RFI responses will be distributed to all offerors.

A7: Pre proposal RFI responses will be posted to FedBizOpps.Gov.

Q8: Will there be a resume template provided for our proposed key personnel? If not, what other information is requested beyond position descriptions, authority and responsibility on the resume?

A8: No. We do not have a resume template for this procurement.

Q9: Please confirm if it is acceptable to deliver the required electronic copies of the proposal one day after the hard copy deadline.

A9: No. It is not acceptable. Offerors shall follow the instructions in Section L when submitting proposals.

Q10: Section l.14, paragraph c. bullet #2 – Will the Contractor's key personnel be evaluated? If so, please provide the evaluations criteria.

A10: The Government will review offeror's key personnel to ensure balance of skills and team mix. Key personnel are not an evaluation factor.

Q11: Section l.14, paragraph h. – Will the Contractor's Safety and Health Plan be evaluated? If so, please provide the evaluations criteria.

A11: No.

Q12: Section l.14, paragraph i. – Will the Contractor's Small Business Subcontracting Plan be evaluated? If so, please provide the evaluations criteria.

A12: No.

Q13: Key Note #16 on Sheet M704 makes reference to a Bid Option #8. This Option does not appear anywhere else in the Solicitation. Please confirm if a bid option related to the anhydrous ammonia system is desired, and if so, revise the Option/CLIN descriptions accordingly.

A13: The anhydrous ammonia system shall be considered part of the base bid. Key Note #16 will be deleted in the upcoming RFP amendment.

Q14: Please confirm if all hazardous material, other than the material identified in the reports issued with the draft RFP, has been or will be removed from Sphere 6 prior to the work of this Solicitation.

A14: Liquid waste inside Sphere 6, as well as the waste in the ancillary tanks below will be disposed of by Government prior to demolition. Government will dispose of any unused caustic material (NaOH) prior to demolition. HS&E Note 5 on G005 address any hazardous materials associated with Sphere 6 itself aside from chemicals that are to be removed by Government.

Q15: Please confirm if all existing hazardous material from the chemical treatment systems in the existing Arc Jet SVS boiler will be removed prior to the work of this Solicitation. If this material was not be removed by others, please provide a complete hazardous materials survey for the demolition work associated with Option 7.

A15: There are three key notes (15-17) on M201 associated with the chemical treatment system. It can be expected that residual chemical solution (quantity unknown but limited to size of pumps and tanks themselves as a worst case quantity scenario) will be found in the chemical feed pumps (Key Note 15) and chemical mixing tanks (Key Note 16). The chemical storage tanks (Key Note 17) are owned by a third-party vendor and thus can be expected to be removed by that vendor and not the contractor. Government will dispose of the two chemical totes prior to exercising Option7.

Q16: Section 1.4 "Building Information Modeling" references a document titled 'Building Information Modeling Scope of Services and Requirements for Construction Contractor in a Design-Bid-Build Process – Replace Arc Jet Complex SVS Boiler' dated April 24, 2012; however, the BIM scope of services document issued with the draft RFP appears to be for a design-build project. Please clarify the required BIM guidelines for this proposal, and re-issue appropriate documents if necessary.

A16: The Government has deleted existing BIM (design-build) guidelines. Offerors shall utilize document titled 'Building Information Modeling Scope of Services and Requirements for Construction Contractor in a Design-Bid-Build Process – Replace Arc Jet Complex SVS Boiler' dated May 10, 2013, which will be incorporated into the upcoming RFP Amendment.

Q17: Please confirm if additional pre-proposal site visits may be requested and considered.

A17: We do not intend to hold another site visit.

Q18: Subsection 3.2.4.10 states that boiler must operate continuously for 14 days. Subsection 3.2.4.14 requires 30 continuous 24 hour operational days prior to final acceptance. It further requires Contractor to provide labor, chemicals …. Does this mean that Contractor must provide operators and run the new boiler(s) 24 hours per day for 14/30 continuous days and vent all the steam produced?

A18: The tests required for each individual new boiler are as specified in subsection 3.2.4. In addition to the other tests noted in subsection 3.2.4.3.2.4.1, 3.2.4.2 and 3.2.4.3, the Boiler Preliminary Operational Tests noted in subsection 3.2.4.4 have duration of 2 weeks continuous. It is not intended to have the boilers

and burners operating 24 hours a day continuously for 30 days. The Plant Acceptance Operation (PAO) requirement noted in subsection 3.2.4.14 shall be interpreted to mean operation per the normal uninterrupted SVS operating schedule for a 30 day contiguous period. The design load schedule for the SVS is defined in paragraph 1.4.1.1.b. Shutdowns each evening and on weekends, and subsequent startup the next operating day will be required during the PAO. SVS typically operates four days per week (Monday, Tuesday, Thursday and Friday), so there would be a maximum of 18 days of operation (light-off) in a 30 day period. PAO duration is a maximum of 30 contiguous days, or until Government accepts plant operation, whichever occurs sooner.

Q19: Subsection 2.8.1.2 Heater Capacity, requires capacity of 213,000 pounds per hour of softened makeup water. Drawing M601 states capacity of 226,000 pounds per hour. Which is correct?

A19: Both of these mass flow rates correspond to maximum firing rate of the boiler plant (with one standby boiler). At average TDS levels, the makeup water required is 213,000 PPH. However, at higher TDS levels, extra steam blowdown is needed to maintain water quality in the steam drum, necessitating more makeup water. For worst case TDS levels (which is rare), 226,000 PPH is the required makeup water rate. The deaerator heater should be sized for the scheduled flow rate on M601.

Q20: Subsection 2.2.1 Capacity, states that capacity of units shall be 362,388/n gallons of water… Also states peak rate is 25,468/n gph. What does "/n" mean?

A20: The water softener vendor shall provide the required water softener capacity (362,388 gal between regenerations and 25,468 gph peak rate) in (a) a single vessel system or (b) a parallel multiple vessel system with a strict footprint constraint. If 2 or more vessels in parallel are proposed to get the total capacity, or n = 2 or more, the capacity of each unit will be 362,388/n. Same applies to the peak rate.

Q21: Subsection 1.7 Warranty, requires a five (5) year warranty period for all steam plant equipment essential for the production of steam for the steam vacuum system. Please confirm that this warranty is for equipment (boiler, DA, SCR, economizer, etc.) and not piping, valves, fittings, etc.

A21: Only equipment is referred to in this requirement. Government considers valves to be equipment. Piping and fittings should be covered by the general construction warranty. See Section 01 86 12.07 40, subsection 1.7 for mechanical system warranty.

Q22: Subsection 3.5.1 states that the air pollution control equipment and monitoring system shall be tested…Please confirm that the scope does NOT include a continuous emissions monitoring system.

A22: CEMS is not in scope.

Q23: Subsection 1.5.b states Contractor is to supply: "2 of each part for spare parts inventory." The spare parts data list does not describe in detail the spare parts to be provided nor is it clear if the cost of these spare parts are included in the scope or to be paid for by NASA separately from the contract scope. Please advise.

A23: This requirement is from Section 01 78 00 which is for Closeout Submittals. Actual spare parts required are identified in the technical specifications.

Q24: Water Softener(s) are not identified on the Equipment Schedules. Does NASA have any recommended vendors? Please identify whose water softener was included in the drawings?

A24: The basis of design is the type manufactured by Aqua Pure. The Government does not have recommended vendors.

Q25: Subsection 2.1states that "All boiler subsystems, such as burner assemblies and SCR shall be fully factory assembled and tested." We do not believe that burner manufacturers nor SCR manufacturers have the ability to perform factory testing. Please delete "and tested" from the scope.

A25: The factory testing requirement will be deleted in the pending RFP amendment.

Q26: Subsection 3.1.3.3 states that the boilers are to be painted with one coat of aluminum heat resisting paint after testing is complete. Is it acceptable to have the boiler manufacturer providing the boilers with this paint rather than re-paint the boilers?

A26: It is acceptable that the second field applied coat required in subsection 3.1.3.3 be applied in the factory in addition to the factory-applied coat required under subsection 3.1.3.1. Factory finished equipment for which the finish has been damaged in the field shall have damaged areas retouched. This will be in the pending RFP amendment.

Q27: Please provide the manufacturer for the basis-of-design boiler package included in the current permitted drawing set.

A27: Please refer to Key Note 1 on M601. The basis of design is the composite of Renteck, Cleaver Brooks (Nebraska), Indeck, and Babcock & Wilcox.

Q28: Per the Steam Boiler Equipment Schedule on Sheet M601, Nebraska Boiler Co. is listed as an acceptable manufacturer. Please verify that Nebraska Boiler is now Cleaver Brooks Boiler Co., and that Cleaver Brooks is an acceptable manufacturer for this project.

A28: Yes. Cleaver Brooks is the manufacturer of the Nebraska-engineered boiler line, and is an acceptable manufacturer. Acceptable manufacturers are not limited to the four manufacturers listed as the Basis of Design. Please refer to the 'or approved equal' language included in Key Note 1 on M601.

Q29: Please confirm if any existing piping capped off as part of demolition work requires pressure testing and/or special welding inspections after caps or flanges are installed.

A29: Yes. Pressure testing and NDE is required on pressure retaining welds in accordance with Section 40 17 26.0020 and Mechanical General Notes 49 and 50 on M002. Refer to the specified field test and inspection requirements found in the contract documents for the service being capped.

Q30: The drawings do not show piping and other services to be capped as part of the demolition work included in Options 1 & 7. Please confirm service, quantity, and size for all lines to be cut and capped as part of the aforementioned Options. Additionally, please confirm if capped piping requires a blind flange or a welded cap.

A30: NOx scrubber system (Bid Option 1) overhead pipes are to be removed by others as noted on Key Notes 1, 3 and 4 on M202. For Option 7, the major points of disconnection are shown on M201. Capped piping can be blind flange or welded cap, unless otherwise noted. All lines are 6" diameter steel construction.

Q31: Please confirm if any services to be cut and capped as part of Options 1 & 7 require underground capping, complete removal back to origin, and/or corrosion protection. If differing requirements exist for different services, please delineate the extent of cutting and capping/removal required for each service.

A31: The only utility line required capping underground is that for natural gas.

Q32: Please confirm if pressure, x-ray, or both testing methods are required at tie-in welds.

A32: Yes. Hydrostatic test is required on all pressure retaining welds per plans and specs. In addition, provide NDE (non-destructive examination) as required per Section 40 17 26.00 20 for ASME piping, or otherwise specified for non-ASME piping.

Q33: Please confirm if the Commissioning Authority is to be contracted by the prime contractor, or by the Government.

A33: Commissioning Authority is to be contracted by the Government.

Q34: At the site visit, it was mentioned that any changes to the drawings require re-permitting. Please provide the guidelines and approximate timelines for Moffett Field permitting.

A34: Refer to the APR 8829.1 which establishes the Construction Permit Process and the requirements imposed on all construction activities by the Government. Permit applications are reviewed every week on Wednesday. If determination is 'Revised and Resubmit', the applicant will have to revise their drawings to address the comments and then resubmit the application for review. The review period for the resubmittal is generally a maximum of 10 working days.

Q35: What constitutes a major subcontractor?

A35: For this project, the Offeror will determine who their "Major Subcontractor(s)" are, pursuant to their proposal. Defining the major subcontractor may include, but not limited to the disciplines defined in the RFP.

Q36: Based on the supplied data regarding feed water quality, and using an independent projection schedule, (our proposed/planned water softener) system will provide a hardness of .42 mg/l as Calcium Carbonate. Is this acceptable?

A36: Section 23 52 33.03 20, Steam Boiler System, quantifies water softener performance in paragraph 2.9.8.2 as follows: "Hardness: Maintain hardness of the softened feedwater near zero and in no case allow it to exceed 1 ppm as CaCO3." The offeror shall verify with the boiler manufacturer water quality requirements for the boiler selected.

Q37: A Header-Lateral-Distributor Head Type is more typically found, and the standard for much larger vessels. A hubbed lateral is more typical or standard for a vessel of 48" diameter. Will NASA accept a hubbed lateral for this application?

A37: Yes, either a hubbed lateral or header lateral is acceptable. Section 23 52 33.03 20, Steam Boiler System, Paragraph 2.9.8 is silent on distributor head type. The header lateral may be more typical of municipal water system which is why it was stated in Section 22 31 00, Water Softener. The 48" size requirement is the minimum size vessel that would be accepted for a single tank (a parallel system would have multiple small vessels). The design basis assumed the single vessel system to be 72" diameter.

Q38: The water meter specified is one that conforms to AWWA C700 or C701standards, which is not normal for a water softener boiler feed application. The specified meter can be provided, however it is an expensive upgrade, especially since two (2) will be needed. Is non AWWA water meter acceptable?

A38: Yes, a non-AWWA meter is acceptable.

Q39: A Steel Brine Tank has been specified. Will NASA be receptive to a polyethylene tank as a substitute to the steel tank?

A39: Yes. A polyethylene brine tank is an acceptable substitute for the steel brink tank specified in Section 22 31 00 Water Softener or the FRP tank specified in Section specification 23 52 33.03 20 Steam Boiler System.

Q40: Subsection 3.1.3.2 states that structural supports shall be painted. Can they be galvanized in lieu-of painted?

A40: All bidders are requested to price their bid based on the technical requirements included in the contract documents, including paint requirements.

Q41: Please provide the design calculations for thermal and dynamic loading of pipe supports typically contained in the Design Analysis.

A41: We have provided design calculations and they are incorporated in Attachment J-24.

Q42: During the site visit, it was mentioned that the relatively new FWDA tank outside of Building N234A will remain. Please provide additional detail on the location of points of removal for piping connected to this tank. Will piping be cut and capped inside or outside of Building N234A?

A42: Refer to Process Piping Routing Plan, Drawings P211, P301 & P302 (Attachment J-25). Disconnect and blind flange at points annotated on referenced drawings.

Q43: To ensure adequate provisions are included in the project schedule, please provide additional details on the cutover and extent of testing requirements for the new boilers discussed at the site visit. For example, in addition to manufacturer's startup and typical boiler commissioning, will the boilers be required to be run during a live arc jet test?

A43: The tests required for each individual new boiler are as specified in subsection 3.2.4. All of these individual boiler tests must be completed prior to the Plant Acceptance Operation (PAO). PAO requirements noted in subsection 3.2.4.14 include the following:

a. PAO duration is a maximum of 30 contiguous days, or until Government accepts plant operation, whichever occurs sooner. The design load schedule for the SVS is defined in (1.4.1.1.b). Shutdowns each evening and on weekends, and subsequent startup the next operating day will be required during the PAO. SVS typically operates four days per week (Monday, Tuesday, Thursday and Friday), so there would be a maximum of 18 days of operation (light-off) in a 30 day period.
b. PAO shall be conducted by Contractor's staff, until Government acceptance.
c. PAO shall be directed by authorized Government staff.
d. PAO shall supply steam to the SVS, unless Government directs new plant to waste steam, when old boiler plant must be used for Arc jet testing during the PAO.
e. PAO may be used for actual Arc jet tests, when approved by Government.
f. PAO may be used to provide required training of Government staff.
g. SVS shall be controlled by Government staff. Any new SVS controls must have performance verification tests completed prior to PAO.

Q44: Please confirm if bulk NH3 is required to be provided for the new NOx reduction system, or if this chemical will be furnished by a current NASA contractor.

A44: Contractor is to provide required chemicals per Section 23 52 33.03 20, Steam Boiler System.

Q45: Please confirm if switchgear "SWGR-1" can be shut down to accommodate the installation of the new vacuum circuit breaker feeding new transformer "T312", or if this installation will need to be performed on energized equipment.

A45: Yes, SWGR-1 can be shutdown. Work is not allowed on energized equipment.

Q46: Please clarify the extent of modeling of existing, non-renovated conditions required by the document "Facility Information Modeling Scope of Services and Requirements for Construction Contractors in a Design-Build Process." For example, if new work is performed within an existing building, would only the new work be modeled, or would the entire space surrounding the new work also be required to be incorporated into an updated as-built model?

A46: The BIM model provided by the Government establishes the envelope of the extent of the BIM model. Contractor is directed to utilize document titled 'Building Information Modeling Scope of Services and Requirements for Construction Contractor in a Design-Bid-Build Process – Replace Arc Jet Complex SVS Boiler' dated May 10, 2013.'

Q47: Please confirm the acceptability of offerors to submit multiple key subcontractors and/or teaming partners (of the same trade), provided all listed key subcontractors and/or teaming partners comply with the past performance criteria of Section L.16.

A47: Yes. That is acceptable.

Q48: Given the new proposal date issued with the RFP, as well as the extensive information required to be obtained from past clients, please confirm if the due date for Past Performance Questionnaires can be extended to May 27, 2013.

A48: Yes. We will extend the due date for receipt of past performance questionnaires to the proposal due date.

Q49: Section M.2 states that "offerors should possess a three-year average experience modification rate (EMR) of less than or equal to 1.00 from question 1 AND a "No" response to questions 2 and 3." Will a three-year average EMR greater than 1.00 render an offer unacceptable?

Will a "Yes" answer to either question 2 or 3 in Attachment J-7 render an offer unacceptable?

A49: "No" for both questions.

Q50: The Steam Vent Silencer specified is a 54 VT-32P which is 54" in diameter. However, the stated size of the silencer is 45" per the referenced drawing. Which is correct 54" or 45"?

A50: The correct size is 45". The correct model selection is "MAXIM 45 VT-3". Although Maxim is basis of design, other manufacturers are acceptable. Other Steam Vent Silencer schedule data to be updated for the correct silencer include the following:

- Pressure Drop: 6 PSI
- Acoustical Performance in dB for each octave band:
  62.5 Hz: 22
  125 Hz: 33
  250 Hz: 46
  500 Hz: 56
  1K Hz: 60
  2K Hz: 55
  4K Hz: 52
  8K Hz: 50

Q51: The spec. Section 23 52 33.03 20 page 26 says that the deaerator should be a tray-type DA. However in the equipment schedule M601, it says the deaerator should be a steam atomizer. Which is correct?

A51: Deaerator shall be tray type per Section 23 52 33.03 20 page 26, and as noted in equipment schedule on M601 under TYPE.

Q52: Has a Lightning Risk Analysis been performed for the facility? Specifically was the NFPA780 Annex L calculation performed?

A52: Lightning is not considered a risk at Ames and no lightning risk analysis, including NPFA 780 Annex L, was performed for the facility.

Q53: Our Victory Energy boiler is not listed between the other 4 Steam Boilers Equipment Schedule on Sheet M601. But, Key note 1 on M601 refers to the "or approved equal". By the way, Victory supplied their boilers in the past for NASA in Texas.

We would like to know if we are an approved equal, who do we ask?

A53: Whether the Victory Energy Boiler is an approved equal or not will be determined during the submittal process. The approved equal shall meet all the boiler requirements as specified in the project design criteria, specifications and drawings.

Q54: a. The specifications are calling for glass fabric and mastic along with aluminum jacketing on all fans, duct work, stacks, tanks, terminations, seams, joints and fittings. Is this necessary where we are using an aluminum jacket to cover all insulated items?
b. Also they do not address types of aluminum jacketing nor thicknesses for said equipment besides the piping.
c. Is the sealing of all aluminum jackets with sealant on all laps required?
d. Are removable insulation pads approved for pumps, valves, HX, and expansion joints?

A54: a. Yes, per 3.4.3.1
b. Aluminum jacketing per 2.2.8.1
c. Yes, per 3.2.4.1 and 3.4.3.1
d. No. Removable insulation pads would be considered a substitution, subject to approval.

Q55: Please clarify the desired stack temperature. This section indicates 254F maximum. Section 2.3.2.e requests a control system to limit temperature to a minimum of 300F. Our recommendation based on the specified feedwater temperature would be a stack temperature of 270F.

A55: 23 52 33.02 20, 1.4.1.4.a.4 requires 254^0F for the sizing of the stack. M601 requires 254^0F outlet for sizing the economizer. The control set point is adjustable, and controls shall be capable of controlling economizer operating temperatures.

Q56: Please confirm stack exit velocity. This significantly exceeds standard levels and will impose additional pressure drop in the system.

A56: The Gas Exit Velocity (Cone Exit) Maximum at maximum conditions shall be revised to 150 ft/sec.

Q57: re: Page 7, item 2.2--Please revise to read, "Gas fired boilers shall have a steady state combustion efficiency of at least 80 percent when fired at 50% and greater." 80% efficiency is not possible at 20 0r 30% per the specification.

A57: Combustion efficiency shall be minimum 80% per 23 52 49.00 20 for any part load firing of the auxiliary boiler.

Q58: Please revise the stack temperature to 270F based on the specified feedwater temperature and the specified economizer size shown on the project drawings. Re: Page 11, item 1.4.1.4.a

A58: Stack temperature is 254^0F per 1.4.1.4.a.3 and M601.

Q59: Please revise to read "… with excess air not over 15 percent at full load, and predicted excess air of 40% at 20 percent steam load." Re: Page 15, item 1.4.5.3

A59: Maximum excess air is 22% at 20% load per 1.4.5.3.

Q60: This should be removed from the project scope as it is not required or desired on a natural gas fired boiler. Re: Page 20, item 2.3.2.e

A60: Temperature control of flue gas temperature is required. Set point is adjustable.

Q61: US GSA specification FS F-B-2902 was canceled as of February 28th, 2001 and thus reference should be removed. Page 21, item 2.4.1

A61: NASA is aware that FS F-B-2902 has been cancelled many years ago. Nevertheless, it is used in this specification to describe the boiler combustion control Class.

Q62: Please revise to indicate that FM and UL approved components will be utilized when available. The valve train will not be FM approved as a package. Gages will be line mounted on the valve train in lieu of panel mounted. Page 22, item 2.4.1.2.a

A62: 23 52 33.03 20, 2.4.1.2.a shall be revised as follows: "Provide UL or FM approved gas train components..." Gages shall be panel mounted as specified.

Q63: Please remove the second sentence of this section as direction of fan discharge will not be changeable once the fan is constructed. Page 22, item 2.5.1.2

A63: Fan direction is not to be required to be easily changed.

Q64: Please indicate that fabric type expansion joints are allowed in order to accommodate the required thermal growth. Materials are to be designed for the appropriate temperature and pressure. Page 24, item 2.7.2

A64: Breeching expansion joints are specified to be metallic.

Q65: During the site visit, it was mentioned that a specific date range is sought by NASA for the cutover of the new boilers to the SVS. If required, please provide the date range for testing and/or cutover of the new plant.

A65: No specific date range is sought by NASA for the cutover of the new boilers to the SVS. The testing/cutover shall be shown on the Contractor's schedule. This milestone will occur at the end of the installation and sub systems checks of the new boilers. As this schedule milestone approaches, the Government will accommodate the Contractor's work schedule to the extent that the Arc Jet Test Schedule will allow. The Contractor is advised that the Arc Jet Test Schedule has operational priority and changes to the Contractor's schedule may be required.

Q66: Per Section 01 11 00 1.3, BIM Competence and Responsibilities, the Offeror is required to submit a description of the BIM experience of its key project team members. This requirement is not included in Section L. Please confirm where this information should be included within our proposal response. If this information should be included in Volume 2 – Past Performance Background/References, we formally request to have the page limit of this section increased from 25 pages to 28 pages.

A66: Offerors shall refer to RFP Section L.16, Volume II—Past Performance, and shall include a brief write-up to addressing BIM experience of similar type projects. This is the offerors' opportunity to highlight their experience and abilities for the Government evaluators. Page limitations remain unchanged.

Q67: Please confirm if any portion of the existing Building N234A structure and/or shell is required to be demolished with the removal of the existing boiler.

A67: No portion of the existing Building N234A structure and/or shell is required to be demolished with the removal of the existing boiler and existing FWDA system including their respective ancillary equipment/support structure within Building N234A.

Q68:
a. The Equipment Schedule shows a very small auxiliary steam boiler (SB-04). The referenced Steam Piping Diagrams show that the steam (288 lbs/hr) from this boiler will be piped into the DA tank. Our assumption is that this boiler (SB-04) will only run when the large boilers (SB-01, 02 and03) are not operating. Please confirm?
b. If confirmed, what is the purpose of this steam being injected into the DA?
c. If it is to keep the DA hot, will 288 PPH of steam injected into the top of the DA accomplish that objective?
d. Should this be a hot water boiler recirculating and heating the water in the DA? Is this part of the scope design build or build to print?
e. If this boiler is part of Bid Option 2, please provide requirements for DA auxiliary heating system.

A68:
a. Auxiliary steam boiler SB-4 only runs when other boilers are off duty.
b. Auxiliary steam is used to maintain temperature of water in DA tank, and to provide a blanket of pressurized steam to prevent re-aeration of the feedwater.
c. Yes.

d. The auxiliary steam boiler is built to print.
e. The standalone DA auxiliary heating system requirements are provided in the drawings and specifications. Per G006, Bid Option 2, combining the boiler auxiliary heating system with the DA auxiliary heating system into one system is an acceptable alternative.

Q69: a) What is the data highway for remote IO? Controlnet or Ethernet?
b) Server rack CAB-001 appears to include AFDCS Server IP: 207. Is this server in the contract scope? If so, please provide details.
c) Key Note 5 states "Connect the client computer and one touchscreen to E-Sw11… Is NASA furnishing this computer & touchscreen or is it existing or to be furnished by the Contractor?

A69: a) In the specification (40 9500) we refer to the control network as "ControlNet over Ethernet". This terminology is more currently referred to as "EtherNet/IP" (Ethernet Industrial Protocol).
b) AFDCS Server (IP: 207) is not in the contract scope. The heavy dashed line defining Contractor scope should have excluded the AFDCS Server (which serves the AFDCS Client, IP: 204, also not in contract scope), and Key Note 4 should have been placed next to the AFDCS Server.
c) The client computer (IP: 203) and one touchscreen (IP: 201 or 202) are the same computers that are to be furnished by the Contractor.

Q70: There are several Masoneilan valves that have been specified for this project, and local contractors have been contacting us to quote these valves.

Unfortunately, we do not have enough information to provide a bid for them. I need to find out who provided the initial proposal for these valves, since they can tell me how they are constructed. In return, we can make sure they are paid for the time that they put into this proposal, as is dictated by our contract with Masoneilan.

A70: Control valve information is shown in the Control Valve Station schedule on drawing M602. This schedule and the related drawings (piping and control drawings) should be sufficient for bidding purposes. Half of the 14 each valves are build-to-print and half are design-build (i.e. steam drum level and feedwater return valves). Any reference to a specific manufacturer's product is for reference purposes only and all manufacturers of similar products meeting the salient features as Government requirements may be proposed. The RFP calls for the design-build of boiler components that will be performed by the selected contractor. Accordingly, the contractor will determine the valve details for any contractor design-build portion meeting the contract requirements.

Q71: a. Reference Instrumentation Drawings A231-1300-J701 through J715. We are unable to find matrix showing the list of manual valves as indicated on these drawings. Please comment.

b. Drawing M603 Piping System Data:

i. Instrument Air (IA) piping class shown to be CL150, Specification Section 23-52-33.03-20 Item 2.9.1.f call for stainless steel. Please clarify.

ii. Shop Air (A) piping class shown to be CL150, Specification Section 22-00-00 Page 31 calls for copper. Please clarify.

Iii Chemical Feed (CF1 and CF2) piping class shown to be 150 and 300. Specification Section 23-52-33.03-20 Item 2.9.1.c calls for stainless steel. Please clarify.

c. Drawing C505, Details 5 and 8 shows underground domestic cold water and RO water to be C900 PVC material. Specification Section 22-00-00 Page 31 Item 4 calls for copper. Also, above ground domestic cold water pipe material shown to be ductile iron, RO pipe material is steel, Note 18 on Drawing C106 calls for stainless and Specification Section 22-00-00 Page 31 calls for copper. Please clarify intent.

A71: a. There is no manual valve matrix nor is it indicated on the drawings.

b. Please see Amendment #2 for changes to the specifications and drawings regarding the M603 piping system data.

c. Section 22 00 00 is for domestic plumbing piping within a building, and does not apply to civil work. The cold water and RO water is used for boiler make-up water, and therefore is industrial process water, not domestic. RO pipe material is to be stainless steel per Note 18 on Drawing C106. Please see Amendment #2 for changes to the drawings regarding the RO pipe material.

–END OF Q&A-

NNA13418436R-Replace Arc Jet Complex SVS Boiler
Summary of Technical Changes

1. Specification sections of the following have been revised (Attachment J-1R1)-Amendment 1:
    a. 01 11 00
    b. 01 14 00
    c. 01 30 00
    d. 01 32 01.00 10
    e. 01 33 00
    f. 01 35 26
    g. 01 35 40.00 20
    h. 01 57 19.00 20
    i. 01 74 19
    j. 01 78 00
    k. 01 78 23
    l. 01 86 12.07 40
    m. 01 86 26.07 40
    n. 05 12 00
    o. 22 31 00
    p. 33 05 23.13
    q. 40 17 26.00 20
    r. BIM Guidelines, dated May 10th.
2. The anhydrous ammonia system shall be considered part of the base bid. Key Note #16 on M704 shall be deleted.
3. Delete factory testing from Section 23 52 33.03 20, Subsection 2.1stating that "All boiler subsystems, such as burner assemblies and SCR shall be fully factory assembled and tested."
4. It is acceptable that the second field applied coat required in Section 23 52 33.03 20, subsection 3.1.3.3 be applied in the factory in addition to the factory-applied coat required under subsection 3.1.3.1. Factory finished equipment for which the finish has been damaged in the field shall have damaged areas retouched.
5. The major points of disconnection for existing piping as shown on M201 shall be blind flange or welded cap, unless otherwise noted. All lines are 6" diameter steel construction.
6. Commissioning Authority is to be contracted by the Government.
7. A non-AWWA meter is acceptable.
8. A polyethylene brine tank is an acceptable substitute for the steel brink tank specified in Section 22 31 00 Water Softener or the FRP tank specified in Section specification 23 52 33.03 20 Steam Boiler System.

9. Revise the Steam Vent Silencer specified as a MAXIM 45 VT-3 from 54 VT-32P.

Amendment #2

1. Change Section 01 14 00, Subsection 1.3.9 to read 'Notify the COR at least 10 working days prior to starting excavation work. Contractor is responsible for marking all utilities.'
2. Change Section 013300, Subsection 1.5.3 to read 'The Government will review all intermediate and final design submittals for conformance with the technical requirements of the solicitation. Review will be only for conformance with the applicable codes, standards and contract requirements. Generally, design submittals should be identified as SD-05 Design Data submittals.'
3. Delete Section 013526, Subsection 1.4.e in its entirety.
4. Delete Section 013526, Subsection 1.11.1.b in its entirety.
5. The Gas Exit Velocity (Cone Exit) Maximum at maximum conditions shall be revised to 150 ft/sec.
6. 23 52 33.03 20, 2.4.1.2.a shall be revised as follows: "Provide UL or FM approved gas train components…"

Amendment #3

1. Change Section 013300, Subsection 1.5.4 section header to read 'Government Conformance Review (CR)'.
2. Change Section 013300, Subsection 1.5.5 section header to read 'Government Approved (GA)'.
3. Change first sentence of Section 235233.02 20, Subsection 2.4.1.2.a to read 'Natural Gas Train: Provide UL or FM approved gas train components...'
4. Change Section 235233.02 20, Subsection 2.5.1.2 to read 'Construct fan wheel of steel. Provide fan with roller bearings mounted in pillow blocks.'
5. On drawing A231-1300-J602, CONTROL SYSTEM BLOCK DIAGRAM, zone B8, add Key Note 4 symbol next to "AFDCS SERVER IP: 207" box to indicate that the AFDCS Server is not in contract. –END-